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**UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA
OAKLAND DIVISION**

CELGARD, LLC,

PLAINTIFF,

V.

SHENZHEN SENIOR TECHNOLOGY
MATERIAL CO. LTD. (US) RESEARCH
INSTITUTE, SUN TOWN
TECHNOLOGY, INC., FARASIS
ENERGY USA, INC., FARASIS
ENERGY, INC., FARASIS ENERGY
(GAN ZHOU), INC., FARASIS ENERGY
(GAN ZHOU) CO., LTD.,

DEFENDANTS.

Case No. 4:19-cv-5784-JST

FOURTH AMENDED COMPLAINT FOR:

- 1. PATENT INFRINGEMENT IN
VIOLATION OF 35 U.S.C. § 271
AGAINST EACH NAMED DEFENDANT**
- 2. BREACH OF CONTRACT AGAINST
FARASIS ENERGY (GAN ZHOU), INC.**

DEMAND FOR JURY TRIAL

[REDACTED VERSION]

1 Plaintiff Celgard, LLC (“Celgard”) files this Complaint against Defendants Shenzhen
2 Senior Technology Material Co. Ltd. (US) Research Institute (“Senior-California”), Sun Town
3 Technology (“Sun Town”), Farasis Energy USA, Inc., Farasis Energy, Inc. (collectively, “Farasis-
4 US”), Farasis Energy (Gan Zhou), Inc., and Farasis Energy (Gan Zhou) Co., Ltd. (collectively,
5 “Farasis-China”) (all four Farasis entities, collectively, as “Farasis”), (collectively, “Defendants”)
6 and alleges as follows:

7 NATURE OF THE ACTION

8 1. This lawsuit concerns the brazen infringement of Celgard’s patents by Defendants,
9 as well as Defendant Farasis Energy (Gan Zhou), Inc.’s breach of a supply agreement with Celgard
10 so that Farasis Energy (Gan Zhou), Inc. could enter into an agreement with Celgard’s Chinese
11 competitor for the supply of infringing product.

12 2. Celgard, a U.S. manufacturer, located in Charlotte, North Carolina, has invested
13 hundreds of millions of dollars into research and development for new battery technologies and is
14 an innovator in both coated and uncoated separators used in lithium-ion batteries. Through years
15 of investment, Celgard has worked hard to become a global leader in the development and
16 manufacture of separators used in lithium-ion batteries for consumer electronic (“CE”) devices and
17 electric vehicles (“EVs”). Celgard makes products in North Carolina, has facilities around the
18 world, and ships products globally.

19 3. In the past 20 years, rechargeable lithium-ion batteries became very popular for use
20 in varying applications. Lithium-ion batteries provide a power source with a higher energy density,
21 longer cycle life, and higher operational voltages with a relatively small size and light weight, as
22 compared to other rechargeable batteries. Separators are thin electrically insulating sheets used
23 in batteries, and they sit between a battery’s electrodes—the anode and the cathode. The
24 separator is typically microporous to allow for ionic conduction (of lithium ions) while preventing
25 direct physical contact and electrical connection between the electrodes of the battery. Separators
26 are critical because the touching of the two electrodes typically results in a major electrical “short”
27 of the cell and possibly in catastrophic failure such as fire or explosion.

28 4. Celgard has a broad portfolio of highly engineered products used in this industry

1 and is one of the largest suppliers of separators to the lithium-ion battery industry. Celgard's
2 separators are widely used in lithium-ion batteries for EVs, energy storage systems, power tools,
3 and CE devices, such as notebook computers, mobile telephones, and tablets. EVs include both
4 hybrid EVs, like the Toyota Prius, and full-EVs like Teslas. Celgard's work in the lithium-ion
5 battery industry has been highly praised, and Celgard has received numerous accolades for its work
6 in the lithium-ion battery industry. Celgard's work in EVs in particular has been praised by
7 numerous high-ranking officials, including former President Obama, former Secretary of
8 Energy, Steven Chu, and former Secretary of Labor, Hilda Solis.

9 5. Such innovation is costly. Celgard has invested hundreds of millions of dollars to
10 innovate its separators over the course of more than 30 years—through painstakingly long trial and
11 error, improving each step of each process, each component of each composition, and even
12 developing components of machinery used for the making of separators.

13 6. Celgard's significant investment requires protection, for example, of Celgard's
14 patents. Celgard has diligently pursued and procured intellectual property rights both in the
15 United States and internationally. Celgard owns more than 200 United States and international
16 patents. Celgard invented a new separator for use in batteries and patented its inventions in United
17 States Reissued Patent RE47,520 (the "'520 patent"), formerly United States Patent 6,432,586,
18 entitled "Separator for a High Energy Rechargeable Lithium Battery." The '520 patent describes
19 and claims a separator for a high-energy rechargeable lithium battery that addresses the significant
20 problem of dendrite growth (irregular growth of lithium metal when it is plated onto an electrode
21 during the charging of a battery between electrodes), as well as other problems. The '520 patent is
22 recognized as being foundational in the separator field and has been cited in over 50 patents
23 and patent applications; it expired in April 2020. Celgard also owns United States Patent No.
24 6,692,867 ("the '867 patent"), entitled "Battery Separator-Pin Removal" that is asserted in this
25 action (collectively, the '520 patent and the '867 patent make up "the Asserted Patents"). A true
26 and correct copy of the '520 patent is attached hereto as **Exhibit A**. A true and correct copy of the
27 '867 patent is attached hereto as **Exhibit B**.

28 7. Celgard's investment and protection of its investment has resulted in separators used

1 in lithium-ion batteries that are safe and efficient and have undergone vigorous testing and
2 optimization processes. As a result of its significant investment in developing its intellectual
3 property, Celgard has become one of the top suppliers of separators for lithium-ion batteries in the
4 world.

5 8. Shenzhen Senior Technology Material Co. Ltd. (“Senior-China”), a Chinese
6 manufacturer of separators, together with its agents, alter-egos and/or related entities Senior-
7 California, Sun Town and Global Venture (collectively, “Senior”) has avoided the time-consuming
8 and expensive process of developing its own separator technology and instead manufactures
9 infringing separators.

10 9. Senior embarked on a scheme to take over the global separator market with an intent
11 to eclipse Celgard. Their strategy was not based on fair competition, independent research and
12 development, or their own advances in technology. Instead, Senior’s strategy was to build a suite
13 of products through unlawful theft and use of Celgard’s intellectual property.

14 10. Senior accomplished its scheme by, among other things, hiring one of Celgard’s
15 lead scientists from North Carolina in October, 2016, Dr. Xiaomin (Steven) Zhang, who became
16 an expert on separator membranes, resins, and production, over the course of more than a decade
17 at Celgard.

18 11. When Dr. Zhang joined Senior, he assumed a pseudo-name in China, Dr. Bin Wang,
19 so that Celgard would not be able to locate him. While at Senior, Dr. Zhang has used and continues
20 to use Celgard’s intellectual property to help Senior create infringing separators, such as coated and
21 uncoated separators.

22 12. Dr. Zhang has been working for Senior in some capacity, through Senior-China,
23 Senior-California, Sun Town, and/or Global Venture at least as early as his departure from Celgard
24 in 2016. Dr. Zhang and Senior (through one or more of the named entities) planned for Dr. Zhang
25 to leave Celgard and work for Senior to create separators for Senior that had properties similar or
26 the same as Celgard separators and with the intent to take away business from Celgard.

27 13. Senior (including the named entities) is using Celgard’s intellectual property to
28 develop, make, use, import, offer to sell, and/or sell infringing separators. Farasis-US and Farasis-

1 China assist and infringe Celgard's patents by incorporating the infringing separators into their
2 lithium-ion batteries for sale in the United States and throughout the world.

3 14. Farasis (including each named entity) is a developer and supplier of lithium-ion
4 battery technologies for a range of markets, including transportation, electric grid, and commercial
5 and industrial vehicles.¹ Farasis knowingly incorporates Senior's infringing separators into its
6 lithium-ion batteries and perpetuates the harm to Celgard by selling its lithium-ion batteries to its
7 customers, such as Zero Motorcycles, Inc. ("Zero Motorcycles"). Accordingly, Farasis-US and
8 Farasis-China assist and infringe Celgard's patents by incorporating the infringing separators into
9 their lithium-ion batteries for sale in the United States and throughout the world.

10 15. Senior and Farasis have conspired to harm Celgard. At least Farasis Energy (Gan
11 Zhou), Inc., Farasis Energy Inc., and Celgard previously had a long-standing business relationship
12 together, with Celgard supplying its separators to Farasis' lithium-ion batteries.

13 16. Specifically, Celgard and Farasis Energy (Gan Zhou), Inc. had a supply agreement
14 for Celgard to supply its separators to at least Farasis Energy (Gan Zhou), Inc., which was effective
15 through March 31, 2019. In January 2019, during the term of the 2018 Supply Agreement, Farasis
16 Energy (Gan Zhou), Inc. told Celgard it was ceasing purchases from Celgard, it refused to pay for
17 specialized separator already made for it, and announced it was going to purchase Senior-China's
18 separators instead.

19 17. In January, 2019, Farasis Energy (Gan Zhou), Inc. and Senior-China entered into an
20 arrangement for the supply of Senior-China's infringing separators. The result of this new
21 arrangement with Senior-China was a breach of the 2018 Supply Agreement with Celgard.

22 18. As a result of Senior-China and Farasis Energy (Gan Zhou), Inc.'s conduct in
23 replacing Celgard as the separator supplier, Celgard lost millions of business per year from Farasis
24 Energy (Gan Zhou), Inc. and lost a then-valuable supply relationship. Further, Farasis was now
25 using infringing separators in its products, such that Farasis was now infringing and continues to
26 infringe Celgard's patents, causing Celgard additional significant harm and providing Celgard's
27

28 ¹ This is supported by Farasis' website, <http://www.farasis.com/en/who-are-we.html> (last
accessed on July 29, 2020), attached hereto as **Exhibit O**.

1 direct competitor with an economic and marketplace advantage.

2 19. Accordingly, Celgard has suffered and will continue to suffer great harm if Senior
3 and Farasis are allowed to continue infringing Celgard's patents.

4 THE PARTIES

5 20. Celgard repeats and incorporates by reference all prior allegations of this Complaint
6 as if fully set forth herein.

7 21. Celgard is a limited liability company organized and existing under the laws of
8 Delaware, with its principal place of business located in Charlotte, North Carolina. Celgard is
9 directly owned by Polypore International, LP, which is headquartered in Charlotte, North Carolina,
10 and is indirectly owned by Asahi Kasei Corporation, which is headquartered in Japan.

11 22. Celgard is a U.S. manufacturer, has a broad portfolio of highly engineered products
12 used in the battery industry, and is one of the largest suppliers of separators to the lithium-ion
13 battery industry. Celgard has grown to be a global leader in the development and production of
14 specialty microporous membranes, including separators used in rechargeable or secondary lithium-
15 ion batteries for CE devices and EVs.

16 23. Senior-California is incorporated in the State of California, is registered to do
17 business in the State of California, and has an office and research and development facility in the
18 State of California, located at 44049 Fremont Blvd., Fremont, California, 94538.

19 24. Sun Town is incorporated in the State of California, is registered to do business in
20 the State of California, and has an office located at 44063 Fremont Blvd., Fremont, California,
21 94538.

22 25. At least as late as May 16, 2019, Sun Town was selling or offering to sell Senior-
23 China's infringing separators to at least Celgard's consultant in California.

24 26. Senior-China, Senior-California, Sun Town, Global Venture Development, Inc. and
25 Global Venture Development, LLC (the Global Venture entities collectively as "Global Venture"),
26 and Dr. Zhang are conspiring together to develop, make, use, import, offer to sell, and/or sell the
27 accused infringing products, including coated separators and uncoated separators that are
28 manufactured by Senior-China to companies and institutions throughout the United States,

1 including California. For example:

- 2 a. Dr. Zhang—the former Celgard employee who absconded with Celgard’s
3 technology and proprietary information—is currently Chief Technology Officer of
4 Senior-China, and had an address at the same location as Senior-California.
5 Specifically, from April 2019 until August 2019, Dr. Zhang was located at 44063
6 Fremont Boulevard, Fremont, CA 94538.
- 7 b. Dr. Zhang’s listed phone number (510-573-6021) and business address (44063
8 Fremont Boulevard) are the same as those for Global Venture.
- 9 c. Sun Town and Global Venture are located at the same address as Dr. Zhang and are
10 in the same building as Senior-California.
- 11 d. Sun Town and Global Venture have connections with Senior-China and with Senior-
12 California and are companies to which Senior-California’s assets have been
13 transferred.
- 14 e. Sun Town lists Mei-Guang Chen as its Finance Manager on its Statement of
15 Information filed with California’s Secretary of State. Mei-Guang Chen also is
16 Finance Manager for Senior-California.
- 17 f. Senior-China’s website says it has set up a Research and Development center in
18 California and lists a telephone number for Senior-California. When this number is
19 called, a pre-recorded message plays, saying “Hello, and thank you for calling Sun
20 Town Technology.”
- 21 g. Sun Town’s Chief Executive Officer is Jian Chen. Jian Chen is also a director of
22 other entities located at the same location as Senior-California, and Dr. Zhang, such
23 as Global Venture, Global PC Direct, GRJS LLC, and ST Cyberlink, also known as
24 Global PC Direct.
- 25 h. Senior-China’s annual reports from the Shenzhen Stock Exchange show that Senior-
26 China set up Senior-California in January 2017 (around the time Dr. Zhang defected
27 from Celgard) with registered capital of \$1M. The registered business nature of
28 Senior-California is research and development and sales. The 2018 report shows

1 that Senior-China invested approximately \$900 K to Senior-California.

- 2 i. Senior-California began dissolving in 2019. Prior to dissolving, Senior-California
3 transferred its assets to Global Venture and Sun Town for the purpose of Sun Town
4 developing, making, using, importing, offering to sell and/or selling Senior-China's
5 infringing separators throughout the United States, including California.

6 27. Based on at least the above, Sun Town and Senior-California are agents of Senior-
7 China, affiliates of one another, and/or alter egos of one another.

8 28. Celgard respectfully submits that the factual allegations set forth herein concerning
9 the relationships between Defendants have evidentiary support or will likely have evidentiary
10 support after a reasonable opportunity for further investigation or discovery.

11 29. Farasis Energy USA, Inc. is incorporated in the State of California, is registered to
12 do business in the State of California, and has an office located at 21363 Cabot Blvd., Hayward,
13 California, 94545.

14 30. Farasis Energy, Inc. is incorporated in the State of California, is registered to do
15 business in the State of California, and has an office located at 2118 Arthur Avenue, Belmont,
16 California, 94002.

17 31. Farasis Energy (Gan Zhou), Inc. is a corporation organized and existing under the
18 laws of China, with its principal place of business in Ganzhou, Jiangxi, China.

19 32. Farasis Energy (Gan Zhou), Co., Ltd. is a corporation organized and existing under
20 the laws of China, with its principal place of business in Ganzhou, Jiangxi, China.

21 33. Farasis Energy (Gan Zhou), Inc. was renamed Farasis Energy (Gan Zhou) Co. Ltd.
22 during the past year.

23 34. Farasis Energy, Inc. and Farasis Energy USA, Inc. are the U.S. subsidiaries of
24 Farasis Energy (Gan Zhou), Inc./Farasis Energy (Gan Zhou), Co., Ltd, respectively.

25 35. According to its website, Farasis Energy (Gan Zhou), Inc./Farasis Energy (Gan
26 Zhou), Co., Ltd. state that it has an R&D center in Silicon Valley, US. In addition, the website
27 states that Farasis Energy USA, Inc. was established in Silicon Valley, US in 2002.²

28 ² See <http://www.farasis.com/en/who-are-we.html> (last accessed on July 29, 2020), attached

36. Farasis-US and Farasis-China share senior personnel, for example, Dr. Yu Wang and Dr. Keith Kepler.

37. Dr. Keith Kepler is the Chief Technology Officer for Farasis Energy Inc. and is a controller, director, and member of the Board of Directors of Farasis Energy (Gan Zhou), Co., Ltd.

38. Dr. Kepler is also a director of Farasis Energy (Gan Zhou), Inc.

39. Dr. Yu Wang is the Chief Executive Officer of Farasis Energy, Inc. and the Chairman of the Board of Directors of Farasis Energy (Gan Zhou), Inc.

40. Each Farasis entity is a developer and supplier of lithium-ion batteries for a range of markets, including transportation, electric grid, and commercial and industrial vehicles.³

41. Each Farasis entity knowingly incorporates Senior's infringing separators into its lithium-ion batteries, and perpetuates the harm to Celgard by providing these products to its customers, such as Zero Motorcycles.

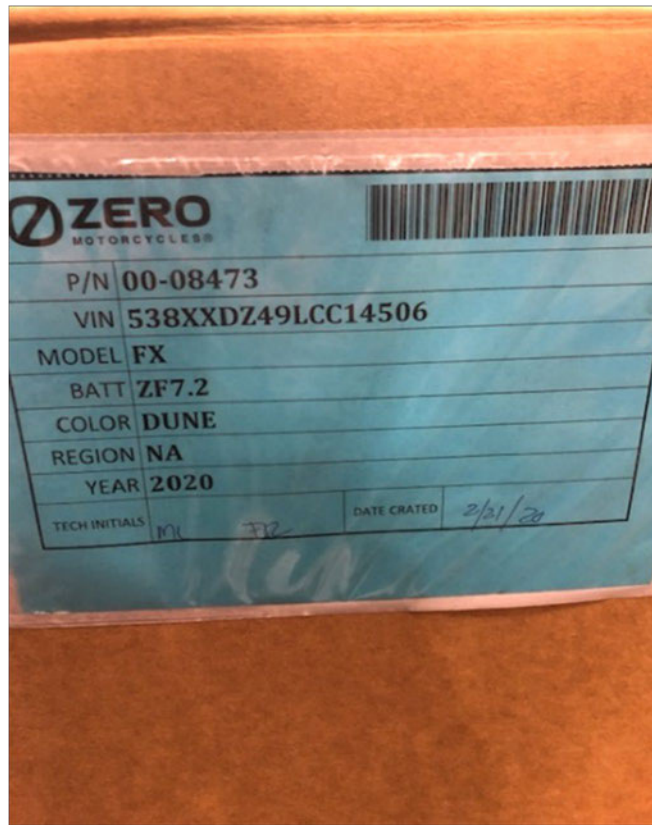
42. Farasis does not make public or readily available any specific names or model numbers of its lithium-ion batteries.⁴ Indeed, Farasis' website does not list any specific products, much less any model numbers or specific names of its products. However, a recently purchased Zero Motorcycles' motorcycle in the United States confirms that it includes a Farasis lithium-ion battery and that the Farasis lithium-ion battery includes a Senior separator.

43. For example, a 2020 motorcycle by Zero Motorcycles, identified as model FX contains a Farasis lithium-ion battery, identified as ZF7.2:

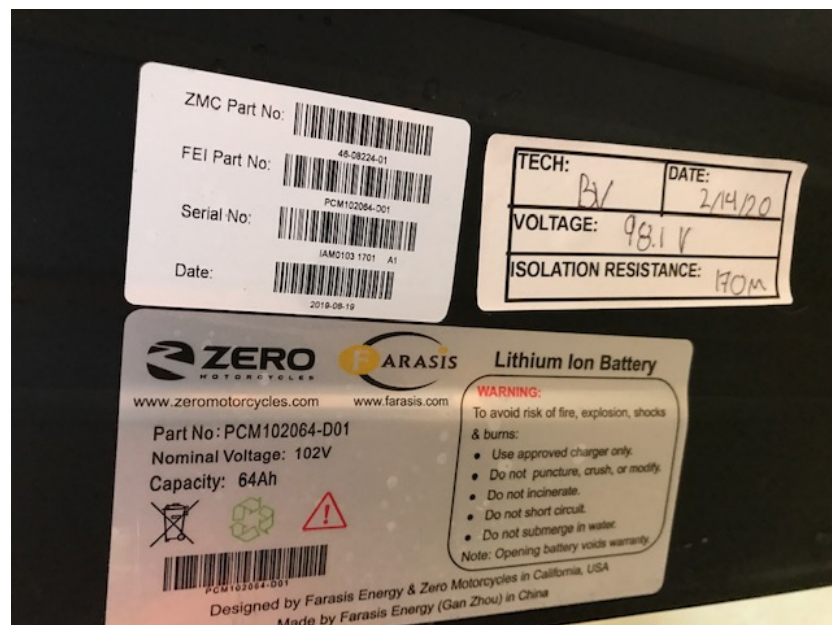
hereto as **Exhibit O**.

³ See <http://www.farasis.com/en/who-are-we.html> (last accessed on July 29, 2020), attached hereto as **Exhibit O**.

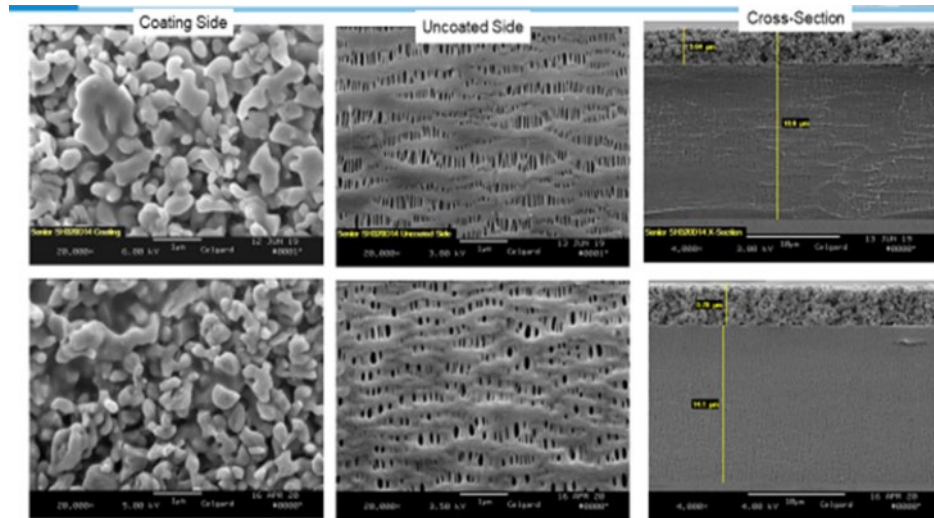
⁴ However, Farasis' website in 2012 listed several lithium-ion batteries identified by the following part numbers, such as IMR-18650-P11, IMR-18650-P15, IMR-18650-P20, IMR-18650-P22, IMR-18650-P24. See web.archive.org/web/20120618061338/http://www.farasis.com/productdetail.html (last accessed on July 29, 2020), attached hereto as **Exhibit P**. Also, a datasheet from 2011 and 2018 reveals an additional lithium-ion battery, as Cell Type: IMP06160230P25A used in Farasis battery packs for Zero Motorcycles in the U.S. **Exhibit Q**.



44. As can be seen from the below photograph of the label of the lithium-ion battery in this motorcycle, the label states that it is “designed by Farasis Energy & Zero Motorcycles in California, USA” and that it is made by “Farasis Energy (Gan Zhou) in China.” The Farasis lithium-ion battery is further identified as “FEI Part No. PCM102064-D01.”



45. Although the separator located in the Farasis lithium-ion battery contains no identifier or model number, Celgard's testing of the separator reveals that it is a Senior ceramic coated separator containing polypropylene. For example, the Scanning Electron Microscope ("SEM") images below compare Senior's SH320D14 infringing separator (top row) to the separator inside the Farasis lithium-ion battery, FEI Part No. PCM102064-D01 (bottom row). Based on a comparison of at least these SEM images, the Farasis lithium-ion battery in Zero Motorcycles' motorcycle contains an infringing Senior separator. Additional comparisons of the separator in this Zero Motorcycles' motorcycle to Senior's separators and Celgard's separators further demonstrate that the separator in the Zero Motorcycles' motorcycle is an infringing Senior separator.



46. Additional evidence that the Farasis Defendants include and incorporate Senior infringing separators in their lithium-ion batteries is the supply agreement between Farasis Energy (Gan Zhou), Inc. and Senior-China to use Senior-China's infringing separators in Farasis Energy USA, Inc.'s and Farasis Energy Inc.'s lithium-ion batteries.

47. Indeed, the Senior and Farasis relationship is well-known with one article stating: "Senior Technology's key domestic clients include lithium battery manufacturers Farasis Energy and Guoxuan High-Tech Power Energy." **Exhibit R.**

48. Accordingly, each Farasis Defendant infringes Celgard's patents because it develops, makes, uses, imports, offers to sell, and sells lithium-ion batteries, such as the one in Zero Motorcycles' motorcycle, identified as ZF7.2 and FEI Part No. PCM102064-D01, that include infringing Senior separators as identified above, to companies and institutions throughout the

1 United States, including the State of California.

2 49. Additionally, the lithium-ion batteries and separators used in the lithium-ion
3 batteries often do not have specific names or model numbers because they are not off-the-shelf
4 products. Instead, as discussed below, the separator manufacturer, such as Senior-China,
5 collaborates with the battery manufacturer, such as Farasis, and the vehicle manufacturer, such as
6 Zero Motorcycles, to design a separator and lithium-ion battery specifically for the vehicle
7 manufacturer based on their requirements. The label of the lithium-ion battery in the photograph
8 above illustrates this point, stating that the Farasis battery was “designed by Farasis Energy & Zero
9 Motorcycles in California, USA.”

10 50. As Farasis-China and Farasis-US share Dr. Yu Wang and Dr. Keith Kepler, both
11 Dr. Yu Wang and Dr. Keith Kepler (and thereby both Farasis-China and Farasis-US) knew details
12 on the infringing Senior separators, their use by Farasis, the lithium-ion batteries they were used to
13 manufacture, the battery customers, and the like.

14 51. Also, based on importation records, Farasis Energy (Gan Zhou), Co., Ltd. for
15 example, in early 2020, shipped 25,940 lbs and 600 cartons of lithium-ion batteries to Farasis
16 Energy USA, Inc. in California. **Exhibit C.** Similarly in June 2019, Farasis Energy (Gan Zhou),
17 Inc. shipped 25,355 lbs and 600 cartons of lithium-ion batteries to Farasis Energy, Inc. in California.
18 **Exhibit D.**

19 52. Farasis Energy (Gan Zhou), Inc. has also shipped 53,306 lbs and 600 cartons of its
20 lithium-ion batteries directly to Zero Motorcycles at its headquarters in Scotts Valley, California.
21 **Exhibit E.**

22 53. Senior sampled and qualified the infringing separators with Farasis-US (the Farasis
23 R&D facility).

24 54. Senior employees also visited the Farasis-China manufacturing facilities where the
25 infringing Senior separators are used to make lithium-ion cells or batteries.

26 55. Senior used Senior-California, Global Venture, and/or Sun Town’s resources to visit
27 Farasis-US facilities and to participate in meetings in the United States with Farasis, as well as
28 BYD, Saft America, Inc., Zero Motorcycles, LG Chem, and the like.

56. Senior's US R&D is in Fremont, CA (city of Senior-California and Sun Town) and Farasis's US R&D is in Hayward, CA (Farasis-US), which are in close proximity to each other.

57. Senior's Director of Sales and Marketing (based in Fremont, CA) attended the Advanced Automotive Battery Conference (AABC) and/or the International Battery Seminar & Exhibit in the US in 2019.

JURISDICTION AND VENUE

58. Celgard repeats and incorporates by reference all prior allegations of this Complaint as if fully set forth herein.

59. This Court has subject matter jurisdiction of the action pursuant to the patent laws of the United States, 35 U.S.C. § 1 *et seq.* and pursuant to 28 U.S.C. §§ 1331 and 1338(a) because Celgard's claims against each Defendant for patent infringement is a federal question. This Court also has supplemental jurisdiction over the other claims pursuant to 28 U.S.C. § 1367 because they are so related to the original claim that they form part of the same case or controversy.

60. This Court has personal jurisdiction over Sun Town, Senior-California, and Farasis-US because each is a California company, registered to business in California, with a principal place of business in this State and District.

61. This Court has personal jurisdiction over the Farasis-China Defendants pursuant to the United States Constitution, the California long-arm statute (i.e. California Code of Civil Procedure § 410.10), and/or Federal Rule of Civil Procedure 4(k)(2) (based off of Farasis-China's contacts with the United States as a whole), and/or any other applicable law.

62. Each Farasis-China Defendant has purposely directed activities in the United States, including California, and continues to purposefully direct activities in the United States, including California, by regularly doing or soliciting business and engaging in other persistent, systematic courses of conduct and by knowingly injecting its infringing products into the stream of commerce with the knowledge and intent that those products will ultimately be imported into the United States and sold to, offered for sale to, and/or used by customers in California and throughout the United States.

63. For example, each named Farasis-China Defendant is in the business of developing,

1 making, using, importing, offering to sell, and/or selling lithium-ion batteries in the United States,
2 including California, that include the infringing separators.

3 64. Specifically, based on importation records, Farasis Energy (Gan Zhou), Co., Ltd. for
4 example, in January 2020 shipped 25,940 lbs and 600 cartons of its lithium-ion batteries directly to
5 Farasis Energy USA, Inc. in California. **Exhibit C.** Similarly, in June 2019, Farasis Energy (Gan
6 Zhou), Inc. shipped 25,355 lbs and 600 cartons of lithium-ion batteries directly to Farasis Energy,
7 Inc. in California. **Exhibit D.**

8 65. Farasis-China's batteries either already have the infringing separator or the
9 infringing separator is added by Farasis-US in California.

10 66. Additionally, based on Farasis-China's Initial Public Offering document, Farasis-
11 China has received thousands of dollars in revenue from Farasis-US during at least 2016-2019,
12 confirming Farasis-US sales in California.

13 67. Additionally, Farasis-US, located in California, is the R&D facility and U.S. sales
14 facility for Farasis-China.

15 68. Additionally, Farasis-US and Farasis-China have overlapping senior personnel,
16 such as Dr. Yu Wang and Dr. Keith Kepler.

17 69. Additionally, Farasis' lithium-ion batteries with the infringing Senior separators are
18 included in at least Zero Motorcycles' motorcycles, electric motorcycles that are sold throughout
19 the United States, including in California. Zero Motorcycles' headquarters is located in Scotts
20 Valley, California.

21 70. Senior sampled and qualified the infringing separators with Farasis-US (the Farasis
22 R&D facility).

23 71. Additionally, based on publicly available importation records, Farasis Energy (Gan
24 Zhou), Inc. has shipped 53,306 lbs and 600 cartons of its lithium-ion batteries containing the Senior
25 infringing separators, directly to Zero Motorcycles at its headquarters in Scotts Valley, California.
26 **Exhibit E.** Farasis-China therefore knew or reasonably could have foreseen that a termination point
27 of the infringing products would or could be the United States and California specifically.

28 72. To the extent that Farasis-China is not subject to personal jurisdiction in this or any

other state's courts of general jurisdiction, this Court has personal jurisdiction over Farasis-China pursuant to Federal Rule of Civil Procedure 4(k)(2) based on Farasis-China's contacts with the United States as a whole, including its sales of its products throughout the United States and its supply contracts with Celgard, Senior-China, and downstream customers to supply products and sell products throughout the United States. For example, Farasis-China sells its batteries that include infringing separators to at least Zero Motorcycles, that are sold throughout the United States, including in California.

73. Venue is proper in this judicial district pursuant to 28 U.S.C. §§ 1391(b)-(c) and 1400(b) because each Defendant has committed acts of patent infringement complained of herein in this District, and thus a substantial part of the events or omissions giving rise to the claims alleged herein occurred in this District, and because Defendants are each subject to this Court's personal jurisdiction with respect to the claims alleged herein. Further, Farasis Energy (Gan Zhou), Inc. and Farasis Energy (Gan Zhou), Co., Ltd. are Chinese (foreign) corporations and not residents in the United States and may be sued in any judicial district under 28 U.S.C. § 1391(c)(3). And, pursuant to 28 U.S.C. § 1400(b), Sun Town, and Farasis-US reside in California, have committed acts of infringement, and each have a regular and established place of business in this District.

FACTUAL ALLEGATIONS

A. Celgard and its Technology

74. Celgard repeats and incorporates by reference all prior allegations of this Complaint as if fully set forth herein.

75. Celgard has a broad portfolio of highly engineered separators, including those that practice Celgard's patents, and is one of the largest suppliers of separators to the lithium-ion battery industry. Celgard has invested hundreds of millions of dollars into research and development for new battery separator technologies and is an innovator in both coated and uncoated separators.

76. Celgard long has been recognized as a leading innovator in the battery separator market. Celgard's technology, its reputation, its market leadership, and its customer loyalty comprise a significant portion of Celgard's value.

77. Celgard's customers are predominantly companies that supply batteries (whether

1 individual cells, modules, or battery packs) to manufacturers that produce CE devices, EVs, and
2 energy storage systems, such as Farasis. EVs include both hybrid-EVs, like the Toyota Prius, and
3 full-EVs, like Teslas.

4 78. In the past 20 years, rechargeable lithium-ion batteries became very popular for use
5 in varying applications. Lithium-ion batteries provide a power source with a higher energy density,
6 longer cycle life, and higher operational voltages with a relatively small size and light weight, as
7 compared to other rechargeable batteries.

8 79. Lithium-ion batteries are typically constructed with a thin porous insulating film
9 (the separator) that allows the battery to operate but prevents the electrodes (cathode and anode)
10 from contacting each other. Liquid electrolyte fills the pores in the separator and voids in the
11 electrodes. When the battery is discharged, positively charged lithium ions flow in the electrolyte
12 from the anode, through the separator pores, to the cathode. This process leaves a negative charge
13 of electrons on the anode. When charging, the flow is reversed. In a rechargeable (secondary)
14 lithium battery, the charge and discharge states are repeated during use. The process of charging
15 and discharging the battery is referred to as one cycle.

16 80. A typical lithium-ion battery cell includes a positive electrode and a negative
17 electrode that is divided by a separator or film, with the electrodes typically being made of
18 compatible metal materials. The electrodes and film are often soaked in (and reside in) a liquid or
19 liquid-like electrolyte. Lithium ions move through the electrolyte between the two electrodes when
20 the battery is discharging its energy (e.g., when the battery is plugged into a device and energizing
21 the device) and also when the battery is charging (e.g., when the battery is plugged into a charging
22 station). The separator prevents direct contact between the electrodes. This is critical because the
23 touching of the two electrodes typically results in a “short” of the cell and possibly in catastrophic
24 failure such as fire or explosion. Therefore, by providing a physical barrier between the electrodes,
25 the separator facilitates safety and continued operation of the battery.

26 81. Separators made of various materials have been used over the years. As batteries
27 have become more sophisticated, separator function also has become more demanding and
28 complex.

1 82. Lithium-ion batteries present certain unique safety challenges due to their chemical
2 design and composition. One such challenge is lithium dendrite growth—the irregular growth of a
3 metal on an electrode during charging or discharging. Over repetitive charge-discharge cycles,
4 dendrites may grow out from the electrode’s surface in a needle-like structure. As the battery is
5 cycled further, the dendrites may continue to grow, penetrating the separator and making direct,
6 physical and electrical contact with the opposite electrode. When such contact is made, an electrical
7 short circuit of the battery may occur. This may cause the battery to malfunction. In certain
8 scenarios, it may cause the battery’s internal temperature to rise quickly and uncontrollably, leading
9 to thermal runaway and catastrophic failure.

10 83. The battery industry has long identified dendrite growth (and associated electronic
11 shorting) as a significant safety issue. Prior to the invention disclosed in the ’520 patent, however,
12 solutions to the problem were varied and achieved mixed results.

13 84. Celgard invented the separator technology described and claimed in the ’520 patent
14 to address safety and durability problems in lithium batteries. The separator claimed in claim 12 of
15 the ’520 patent, for example, includes, among other things, (1) a ceramic composite layer (or
16 coating) including a mixture of inorganic particles and a matrix material, and (2) a polyolefinic
17 microporous layer. The claimed separator’s ceramic composite layer combines inorganic particles
18 within a matrix material to create a ceramic composite layer adapted to at least block dendrite
19 growth, which prevents electrical shorts, improving the safety and commercialization of high-
20 energy lithium batteries. The claimed separator’s polyolefinic microporous layer is adapted to block
21 ionic flow between the anode and cathode at an elevated temperature such as during thermal
22 runaway. This shutdown functionality further improves battery safety.

23 85. The ’520 patent is based on a reissue application that was filed in 2015, issued in
24 2019, and expired on April 10, 2020. The ’520 patent is a reissue of the 6,432,586 patent that was
25 filed in 2000 and issued in 2002. Celgard is the owner by assignment of all right, title, and interest
26 in and to the ’520 patent, including the right to sue for past damages and injunctive relief.

27 86. The Patent Office has confirmed the validity of claim 12 of the ’520 patent after
28 three *inter partes* review challenges. A true and correct copy of U.S. Patent No. 6,432,586 (“the

1 '586 patent”), the predecessor patent to the '520 patent, complete with *Inter Partes* Review
2 Certificate is attached hereto as **Exhibit F**. On June 3, 2019, the validity of claim 12 was yet again
3 confirmed in the Notice of Allowance in the reissue application that matured into the '520 patent.

4 87. Another of Celgard’s inventions is an innovative way to remove a pin from a battery
5 assembly. In the manufacture of high energy, lightweight batteries, for example, secondary lithium
6 batteries, the battery assembly, i.e., an anode tape and a cathode tape sandwiching a separator tape,
7 is wound about one or more pins (or cores or mandrels). To begin winding of the assembly, the
8 separator tape is taken up on the pin, and then the anode and cathode tapes are fed to the pin. Upon
9 completion of the winding, the battery assembly is removed (or withdrawn) from the pin. If the
10 assembly (i.e., the separator tape) sticks on the pin during withdrawal, the assembly “telescopes”
11 and must be rejected. Such rejects increase the cost of the battery manufacturing process. In
12 response to this problem, Celgard invented various separator methods and separators having
13 improved pin removal properties, i.e., separators that will not cause telescoping when the battery
14 assembly is removed from the pin. These inventive separators and methods are claimed in the '867
15 patent.

16 88. Celgard is the owner by assignment of all right, title, and interest in and to the '867
17 patent, including the right to sue for past damages and injunctive relief. The '867 patent was duly
18 and legally issued by the United States Patent and Trademark Office on February 17, 2004, with
19 all claims valid.

20 89. Celgard has invested in significant intellectual property protection and vigorously
21 enforces its patents. Celgard has been forced to enforce its intellectual property rights against other
22 similar infringers, which ended in favorable outcomes to Celgard.

23 90. For example, in 2013, Celgard filed suit against Sumitomo Chemical Co., Ltd., in
24 the United States District Court for the Western District of North Carolina for infringement of the
25 '520 patent (or its predecessor, the '586 patent). The suit was resolved pursuant to agreement of
26 the parties. The suit and its resolution were subject to at least national, industry-focused media
27 coverage as shown in **Exhibit G** attached hereto.

28 91. In 2014, Celgard filed a patent infringement suit against LG Chem Ltd. and LG

1 Chem America, Inc. (collectively, “LG Chem”) in the United States District Court for the Western
2 District of North Carolina for infringement of the ’520 patent (or its predecessor, the ’586 patent).
3 The suit was resolved pursuant to agreement of the parties after significant district court litigation
4 and patent office proceedings. The suit and its resolution were subject to at least national, industry-
5 focused media coverage as shown in **Exhibit H** attached hereto.

6 92. In 2014, Celgard filed suit against SK Innovation Co., Ltd. (“SK Innovation”) in the
7 United States District Court for the Western District of North Carolina for infringement of the ’520
8 patent (or its predecessor, the ’586 patent). The suit was resolved pursuant to agreement of the
9 parties after significant district court litigation and patent office proceedings. The suit and its
10 resolution were subject to at least national, industry-focused media coverage as shown in **Exhibit**
11 **I** attached hereto.

12 93. In December 2018, Celgard filed a patent infringement suit against MTI Corporation
13 in the United States District Court for the Northern District of California for infringement of the
14 ’520 patent (or its predecessor, the ’586 patent). *Celgard, LLC v. MTI Corporation*, No. 5:18-cv-
15 07441-VKD (N.D. Cal. filed Dec. 11, 2018). The suit against MTI has settled and has been the
16 subject of at least national and industry-focused media coverage. *See, e.g., Exhibit J.*

17 94. In May 2019, Celgard filed a patent infringement suit against Targray in the United
18 States District Court for the Northern District of California for infringement of the ’520 patent (or
19 its predecessor, the ’586 patent). *Celgard, LLC v. Targray Technology International Inc.*, No. 5:19-
20 cv-02401-VKD (N.D. Cal. filed May 2, 2019). The suit against Targray has settled and has been
21 the subject of at least national and industry-focused media coverage. *See, e.g., Exhibit K.*

22 95. Most recently, Celgard filed a trade secret misappropriation action against Senior-
23 China in the United Kingdom and, on July 30, 2020, the Court entered a preliminary injunction
24 against Senior-China, stating that “Celgard has adduced sufficient evidence to establish a serious
25 issue to be tried that its trade secrets have been used in the development and manufacture by Senior
26 of battery separators since the time of Dr. Zhang’s arrival as its employee.” **Exhibit S** at ¶ 59. On
27 August 6, 2020, the Court issued its Penal Notice, ordering that “the Defendant whether acting by
28 itself or its directors, officers, employees, servants or agents or otherwise howsoever shall not make,

offer, put on the market, import, export or store for any of those purposes the Battery Separator in the United Kingdom.” *Id.*

96. At least as of February 25, 2019, Celgard provided notice to Senior-China about its violation of Celgard’s intellectual property, including infringement of the ’520 patent (or its predecessor, the ’586 patent).

97. At least as of November 12, 2019, Celgard provided notice to Farasis Energy Inc. about Senior-China’s violation of Celgard’s intellectual property, including infringement of the ’520 and ’867 patents.

B. Market for Separators

98. When customers select a separator for use in a battery, they often face competing issues. For example, a battery design that has a high energy density might have a poor cycle life. One of the most important competing issues is between energy density and safety. Particularly for batteries with high capacity (e.g., those used in EVs), a defect in a separator can lead to an unsafe event—such as a battery fire or explosion. Accordingly, while a battery designer might want to use a particularly thin separator to maximize energy density, a thin separator might be more susceptible to an unsafe condition than a thicker or coated separator.

99. Today, ceramic coated separators are increasingly common in the rechargeable (often large format) lithium batteries used in EVs and for other high-power applications. Much of the plug-in EV market in the U.S. has adopted ceramic coated separator technology. As the EV market continues to grow, an increasing percentage of manufacturers have turned to ceramic coated separators as a means to improve battery safety, battery cycle life, and vehicle driving range.

100. The market for plug-in EVs that use lithium-ion batteries, specifically, is rapidly expanding with an increasing number of makes and models available for sale. Vehicle manufacturers are rapidly increasing the number of available plug-in EVs as demand grows.

101. In the midst of this growth, vehicle manufacturers continue to explore options for increasing the per-charge EV driving range, often using, or making plans to use, a ceramic coated separator to achieve this objective. The success behind the growth of EVs is significantly correlated with longer per-charge driving range—a critical consumer criterion. The longer per-charge driving

1 ranges now available in today's EVs are supported by very high energy density lithium-ion battery
2 cells. The characteristics of these types of lithium-ion battery cells typically lead cell design
3 engineers to specify ceramic coated separators to help address a balance between performance (i.e.,
4 longer per-charge driving range) and safety.

5 **C. Battery Separator Supply Chain and Competition**

6 102. Tiered supply chains are the rule in the EV and CE industries, where the final
7 product consists of many complex components and sub-assemblies that must comply with
8 stringent quality, manufacturing, and business standards. Celgard is an important member of the
9 EV or CE tiered supply chain. As such, it typically supplies components to a battery supplier, who
10 in turn supplies components directly to an original equipment manufacturer (OEM) that produces
11 CE devices, EVs, or energy storage systems.

12 103. Competition for battery sales does not occur on a unit-by-unit basis. Rather, battery
13 manufacturers compete to have EV or CE manufacturers or OEMs use their batteries for an entire
14 product line. Supplying batteries and battery parts for EVs and CEs requires extensive testing and
15 validation among the separator supplier, the battery manufacturer, and the EV or CE manufacturer.
16 Once selected, the battery manufacturers "design in" a particular separator for that "generation"—
17 i.e., that model's production life cycle—which, for EVs, lasts from two to five years, or more.
18 Because many batteries are designed to last for years, and because the ramifications of a battery
19 fire or explosion are so dire, OEMs tend to stick with a battery design, and a particular separator,
20 for a long time. The successful battery manufacturer (and separator manufacturer) thereby procures
21 a blocking position that immunizes it from competition for several years.

22 104. Celgard's experience in the EV market provides a good illustration. Celgard often
23 collaborates with its customers and potential customers to provide highly-engineered and
24 specifically-designed separators for each customer or potential customer's requirements.
25 Typically, the selling process for a separator requires a series of meetings between the
26 separator supplier, the battery producer, and sometimes the OEM, where requirements are
27 discussed, and sample separators are provided and evaluated. These sample separators may be
28 tested as isolated units, or they may be built into working batteries. Following testing, the

1 separator manufacturer may modify the separator, and the new separator and batteries built
2 with it are retested. This iterative process can continue for months or even years, and it can
3 continue through the approval process, and even can be used to make continuous
4 improvements to the product after it is launched.

5 105. Over time, relationships are developed among the supplier, the tiered customer and
6 the OEM at many levels during this process. Supplying components for an EV creates a familiarity
7 and confidence that yields an “incumbency effect” that can carry over from one design cycle to the
8 next. “Incumbency effect” increases the likelihood that the tiered suppliers and OEM will continue
9 to harvest their initial investment through future contracts. Furthermore, through its experience in
10 the EV industry, Celgard has learned that OEMs are more likely to look to their current suppliers
11 for future designs, rather than to suppliers to which the OEMs have not already awarded business,
12 and other OEMs are more likely to select suppliers they know. All of this results in a strong
13 competitive advantage for existing suppliers.

14 **D. The Emerging Market in China for Separators**

15 106. The Chinese government is seeking to have China become the global leader in
16 lithium-ion battery technology, as well as the leader in EV technology. To facilitate these
17 goals, the Chinese government provides subsidies for EVs, which in turn has caused demand
18 for lithium-ion batteries to grow. According to market research, there are over 75 competing
19 Chinese companies that are positioned to provide lithium-ion batteries with ceramic coated
20 separators with many more attempting to enter the market, including international
21 manufacturers that must either meet strict standards or partner with a Chinese company. To
22 accommodate the increased demand for battery cells (and separators), Chinese manufacturers are
23 adding large numbers of production lines for separators, raising the total manufacturing capability
24 to over 1 billion square meter (m²) per year of separators.

25 107. Receipt of subsidies from the Chinese government is conditioned on meeting certain
26 requirements, including a minimum energy density for the batteries installed in the EV. Thus, as
27 with other EV manufacturers, Chinese EV manufacturers have continued to explore options for
28 increasing the per-charge driving range of EVs.

108. With large production capabilities and government subsidies, Chinese battery manufacturers (like Farasis-China) and Chinese separator manufacturers (like Senior-China), can significantly discount the prices of their products, including separators and batteries.

109. One such company that manufactures coated and uncoated separators, including separators in China and significantly discounts prices for its separators is Senior-China.

E. Senior's Violation of Celgard's Intellectual Property Rights

110. As a result of its considerable investment in its intellectual property, Celgard has gained a distinct, commercial and economic advantage in the separator market that has resulted in substantial sales and market share for its products.

111. Senior has embarked on a scheme to harm Celgard by violating its intellectual property rights. As part of that scheme, Senior hired former Celgard employee, Dr. Zhang. Dr. Zhang was employed by Celgard from 2005 until 2016 and, during that time, held a number of positions, was part of the R&D department and function, and was an expert at Celgard in at least resins, polymers, membranes, base films, and process and production technology.

112. During his time at Celgard, Dr. Zhang was an inventor or co-inventor on a number of Celgard patents, and was extensively and intimately involved with Celgard's separators' design, development, and production. As a result, Dr. Zhang has unique, detailed, and extensive knowledge of Celgard's patented technology.

113. Dr. Zhang left Celgard in October, 2016 and lied and said he was going to work for General Electric. However, Celgard later learned that Dr. Zhang joined Senior as its CTO in 2017 and changed his name to "Bin Wang" specifically so that he could hide from Celgard. Dr. Zhang retained an office in California at the same address as Sun Town, Global Venture, and in the same building as Senior-California.

114. Celgard had asked Senior in the summer of 2018 whether Dr. Zhang worked at Senior, and Senior said no. Continuing the lie, in early 2019, Dr. Zhang called Celgard, stating he was not "technically" working for Senior and that he was not working on separator-related technology for Senior. He stated he was instead working on technology such as reverse-osmosis. Recently, having been caught in a lie, Senior admitted it had requested Dr. Zhang to change his

1 name to avoid Celgard's detection and had named Dr. Zhang its CTO beginning in 2017. Further,
2 Dr. Zhang has been working on Senior's separator technology despite his assertions to Celgard to
3 the contrary.

4 115. Dr. Zhang has been working for Senior in some capacity, through Senior-China,
5 Senior-California, Sun Town, and/or Global Venture, at least as early as his departure from Celgard
6 in 2016. Dr. Zhang and Senior (through one or more of the named entities) planned for Dr. Zhang
7 to leave Celgard and work for Senior with the intent that Dr. Zhang create infringing separators for
8 Senior and with the intent to take away business from Celgard.

9 116. On February 25, 2019, after Celgard learned that Dr. Zhang was working at Senior,
10 Celgard sent a letter to Senior-China explaining, among other things, that Senior-China infringed
11 at least the '520 patent (or its predecessor, the '586 patent). Senior-China dismissed the letter and
12 never formally responded.

13 117. Senior hired Dr. Zhang for the specific purpose of using his knowledge of Celgard's
14 patented technology to help Senior develop its infringing separators and to capitalize on his prior
15 relationship and confidential knowledge about Celgard's customers. By unlawfully creating
16 infringing separators, Senior was intentionally attempting to drive Celgard out of the market.

17 118. After creating infringing separators, Senior's global market share increased.

18 119. Senior's (and Farasis') infringement of the Asserted Patents and other wrongdoing
19 has caused and will continue to cause Celgard to lose sales, customers, reputation, and market share
20 for its products and thereby has caused and will continue to cause Celgard significant pecuniary
21 harm for which it seeks injunctive relief and monetary damages and relief in an amount to be
22 determined at trial.

23 120. Celgard has been and will continue to be irreparably harmed by Defendants
24 infringing and unlawful activities.

25 **F. Infringing Products**

26 121. All of the Defendants are aware of Celgard and its products, including Celgard's
27 separator products.
28

122. Senior-China's primary business involves manufacturing lithium-ion battery separators, and particularly, the accused coated separators and accused base films (made by dry or wet process) in this action:⁵



Senior-China identifies its products on its website by the first two letters. For example, it identifies the "Product Type" for its coated separators as: "SH/SN/SF Series."⁶ By further example, it identifies the "Product Type" for its wet process separators as: "SW5/SW3/SW2/SW1 Series" and the "Product Type" for its dry process separators as "SD/SQ/ST/SZ Series."⁷ Upon information and belief the "W" designation refers to separators made by wet-process. The website does not list any specific product numbers for its products.

123. Senior-China manufactures ceramic coated lithium-ion battery separators, including, but not limited to, those sold under at least the series designations SH, MCS, and MFS, those sold under at least the grades SH216, SH416, SH220, SH225, and SH230, and those sold under at least the model numbers SH320D14, SH420D14, SH420D22, SH416W14, SH416W22, SH216D14, SH216D22, SW312F (SH716W14, SH716W22), SW316E (SH220W14, SH220W22), SW320H (SH624W14, SH624W22), SH816D14, SH816D22, SH216Z14, SH216Z22, SH220D14, SH220D22, SH620D14, SH620D22, SH620T14, SH320Z14, SH224D14, SH224D22, SH624D14,

⁵ See <http://www.senior798.com/home/product/index.html> (last accessed February 26, 2021, attached hereto as **Exhibit CC**).

⁶ <http://www.senior798.com/home/product/portfolioCoa.html> (last accessed February 26, 2021) attached hereto as **Exhibit DD**.

⁷ *Id.*

1 SH624Z14, SH229D14, SH229D22, YV218D51A, YV718W51A, YT623D44A, and YT413W22.

2 124. Senior-China manufactures uncoated polypropylene lithium-ion battery separators,
3 including, but not limited to, those sold under at least the series designations SD, SQ, ST, and SZ,
4 those sold at various thicknesses and porosity values, and those sold under at least the model
5 numbers SD216C, SD216101, SD216001, SD216201, SD216E, SD216301, SD220C, SD220001,
6 SD220101, SD422201, SD220201, SD425201, SD425301, SD425401, SD432101, SD432201,
7 SD432301, SD440201, SD440301, SQ212D, SD212202, SQ212F, SD214202, SQ214E,
8 SD216102, SQ216C, SD216202, SD220102, SD220202, SD220202 (double layers), SD425202,
9 SD460201, ST212D, ST212F, ST214C, ST216D, ST216E, ST218D, ST218F, ST420C, ST420E,
10 and SZ212202.

11 125. These products are sold by each Defendant (and/or through its subsidiaries,
12 divisions, affiliates, or groups).

13 126. Targray, a U.S. Distributor of Senior's separators, for example, states of Senior's
14 separators that "[t]he latest addition to Targray's line of battery separators, our ceramic separators
15 delivers an exceptional combination of safety, temperature performance and life cycle for lithium-
16 ion battery manufacturers and R&D facilities. Given their rigorous safety and performance features,
17 our ceramic separators are ideally suited for advanced li-ion battery applications, namely electric
18 vehicles and energy storage systems."⁸

19 127. Senior's SH416W14 and SH416W22 separators are ceramic-coated wet process
20 polyethylene separators, which "are also available with aluminum oxide ceramic coating to further
21 enhance safety characteristics."⁹ Upon information and belief, Senior's entire "SH" series is
22 available with aluminum oxide ceramic coating.

23 128. Senior's SH216D14 and SH216D22 separators are "ceramic-coated dry process
24 ceramic separators," which "are also available with aluminum oxide ceramic coating to further
25 enhance safety characteristics."¹⁰ Upon information and belief, the "D" designation refers to
26

27 ⁸ <https://www.targray.com/li-ion-battery/separators/ceramic-separators> (last accessed April 5,
2019), attached as **Exhibit L**.

28 ⁹ "High-performance Separators," Targray—Battery Division, attached as **Exhibit M**, at 6.

¹⁰ *Id.*

1 standard dry-process separator. Upon information and belief, Senior's entire "SH" series is
2 available with aluminum oxide coating.

3 129. Senior's SH416W22 and SH216D22 are the double-side coated versions of
4 SH416W14 and SH216D14, respectively.

5 130. Senior's ceramic coated lithium-ion battery separators, including the "SH" series,
6 and including at least SH416W14, SH416W22, SH216D14, SH320D14 and SH216D22
7 separators¹¹ infringe at least Claim 12 of the '520 patent. Claim 12 of the '520 patent recites:

8 A separator for an energy storage system comprises:

9 at least one ceramic composite layer or coating, said layer including
10 a mixture of 20-95% by weight of inorganic particles selected from
11 the group consisting of SiO₂, Al₂O₃, CaCO₃, TiO₂, SiS₂, SiPO₄, and
12 mixtures thereof, and 5-80% by weight of a matrix material selected
13 from the group consisting of polyethylene oxide, polyvinylidene
14 fluoride, polytetrafluoroethylene, copolymers of the foregoing, and
15 mixtures thereof, said layer being adapted to at least block dendrite
16 growth and to prevent electronic shorting; and

17 at least one polyolefinic microporous layer having a porosity in the
18 range of 20-80%, an average pore size in the range of 0.02 to 2
19 microns, and a Gurley Number in the range of 15 to 150 sec, said layer
20 being adapted to block ionic flow between an anode and a cathode.

21 131. Senior's ceramic coated separators comprise a ceramic composite layer or coating
22 composed of inorganic particles of the nature and weight percentage (or the equivalent thereto) set
23 forth in Claim 12 of the '520 patent. These Senior ceramic coated separators have an "aluminum
24 oxide ceramic coating to further enhance safety characteristics."¹²

25 132. Senior's ceramic coated separators comprise a ceramic composite layer or coating
26 composed of a matrix material of the nature and weight percentage (or the equivalent thereto) set
27 forth in Claim 12 of the '520 patent.

28 133. Senior's ceramic coated separators comprise a ceramic composite layer that is

¹¹ The infringement for the other Senior ceramic coated separators identified in paragraph 125 are substantively identical to the infringement theories here. Senior's ceramic coated separators all share the same, or substantially the same, infringing qualities as the separators identified in paragraph 132: providing a safer separator by blocking dendrite growth and hence preventing electronic shorting. Senior's ceramic coated separators identified in paragraph 125, including SH320D14 also share at least a similar polyethylene or polypropylene base film as Senior's ceramic-coated SH216D22 and SH416W14 products.

¹² *Id.*

1 “adapted to at least block dendrite growth and to prevent electronic shorting,” as set forth in Claim
2 12 of the ’520 patent. On its website, Targray (Senior’s distributor) acknowledged that these Senior
3 “battery separators must be able to withstand penetration and branching moss-like crystalline
4 minerals in order to prevent the contamination of electrodes. If the separator material is
5 compromised, the performance of the high-power cell declines.”¹³

6 134. Senior’s ceramic coated separators comprise a polyolefinic microporous layer
7 having porosity, average pore size, and Gurley Number measurements within the ranges (or the
8 equivalents thereto) set forth in Claim 12 of the ’520 patent.

9 135. Senior’s ceramic coated separators comprise a polyolefinic microporous layer that
10 is “adapted to block ionic flow between an anode and a cathode,” as set forth in Claim 12 of the
11 ’520 patent.

12 136. Further, Senior’s coated and uncoated polypropylene lithium-ion battery separators,
13 including at least Senior’s SD216C, SH420D14, SH420D22, SH320D14, SD216101, SD216001,
14 SD216201, SH216D14, and SH216D22 separators¹⁴ infringe at least Claims 17 and 18 of the ’867
15 patent. Claim 17 of the ’867 patent, for example, recites:

16 A battery separator with improved pin removal properties
17 comprising:

18 a microporous membrane having a polypropylene surface portion
19 including at least 50 ppm of a metallic stearate.

20 137. Senior’s coated and uncoated polypropylene lithium-ion battery separators comprise
21 a microporous membrane having a polypropylene surface portion including at least 50 ppm of a
22 metallic stearate.

23 ¹³ <https://www.targray.com/li-ion-battery/separators> (last accessed Apr. 9, 2019), attached hereto
24 as **Exhibit N**.

25 ¹⁴ Infringement for other coated and uncoated polypropylene separators identified in paragraphs
26 125 and 126 are substantively identical to the theories shown here. Senior’s other single-sided
27 coated and uncoated polypropylene separators share the same, or substantially the same, infringing
28 qualities as Senior’s SD216D14 product, for example: being various battery separators with
improved pin removal properties. These products also at least share a similar polypropylene base
film as Senior’s SD216D14 separator, and they would also include separators made of multiple
polyolefin layers, where at least one outer polypropylene layer is not ceramic coated, including
SH320D14.

138. One or more of the separators identified above by model number has been purchased and used by Farasis in its lithium-ion batteries, and resold in the United States as part of its lithium-ion batteries. For example, Farasis uses at least Senior's SH320D14 separator or similar separator in its lithium-ion battery, identified as ZF7.2 and FEI Part No. PCM102064-D01 in Zero Motorcycles' FX model.

G. Senior-California's Infringing Activities

139. Sun Town's infringing activities are set forth at least in the preceding paragraphs, which are incorporated herein.

140. Senior-California's infringing activities are also set forth in the preceding paragraphs, which are incorporated herein and are further set forth herein.¹⁵

141. Senior-California is Senior-China's U.S.-subsidiary located in the San Francisco Bay Area.

142. Senior-California, a "branch office," is shown to potential customers as having official signage and a reception area:

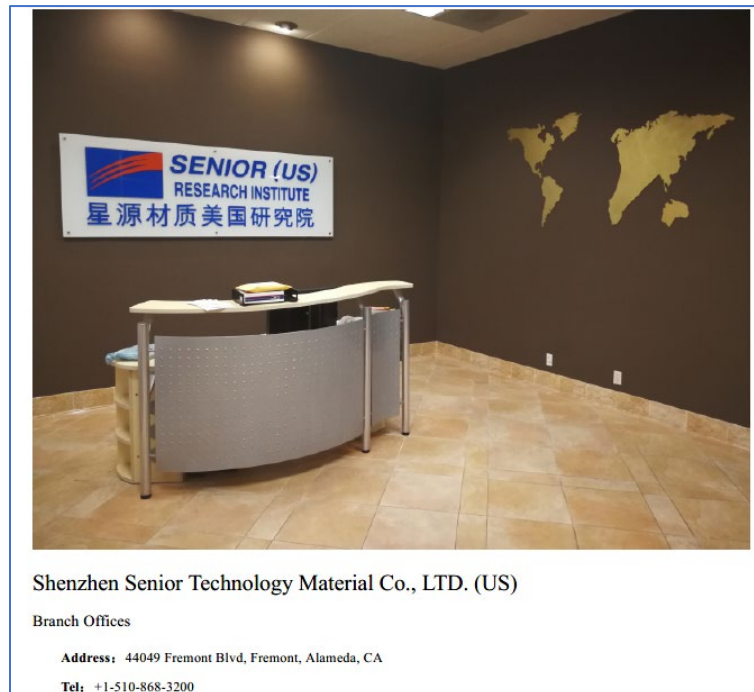
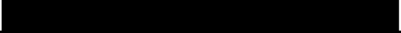
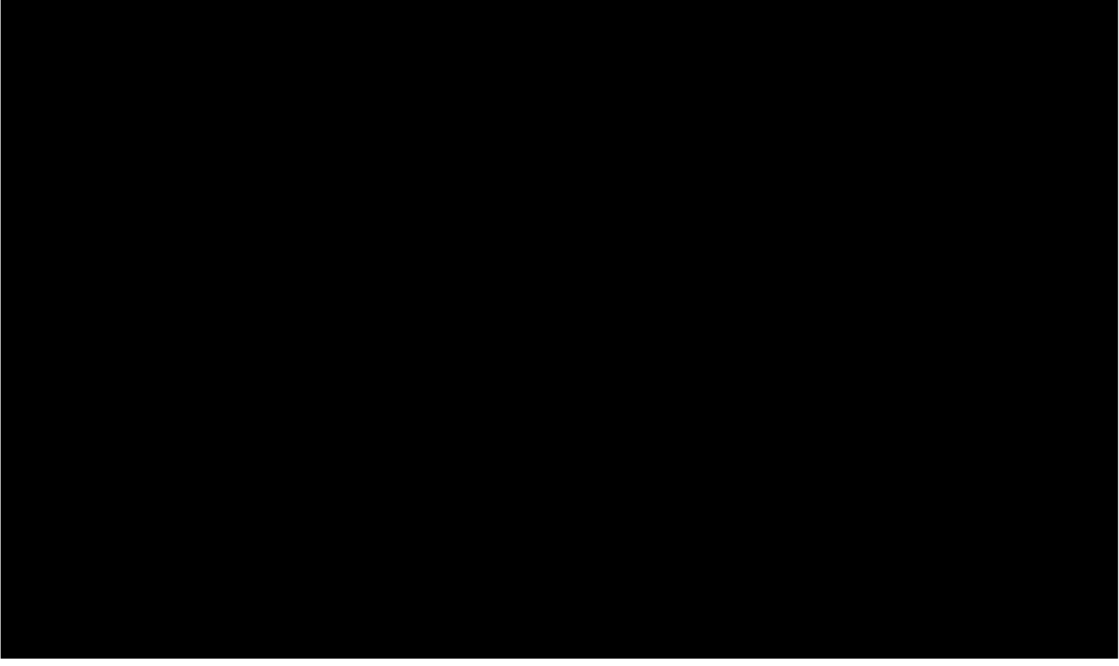



Exhibit T, attached hereto. Senior-California's listed information includes a California telephone



¹⁵ Although Senior-California claims it dissolved in 2019 and claims it no longer currently engages in infringing activity of the accused separators, that does not absolve it from past infringement.

1 number for customers interested in purchasing Senior-China's separators. *Id.*

2 143. Senior-California, also known as "Senior (US)" (*see e.g., Exhibit T*), is described
3 as a Research and Development center for separators. **Exhibit V**, **Exhibit HH**, and **Exhibit II**,
4 attached hereto. Senior-California's Statement of Information filed with the Secretary of State of
5 California also lists Senior-California's business as research and development ("[d]escribe the type
6 of business of the corporation . . . Research & Development"). **Exhibit W**, attached hereto.

7 144. In business documents and corporate filings in California, Senior-California called
8 its business not only "research and development" but also "sales of lithium-ion battery membranes
9 [separators]" and lists its products as "Shenzhen Senior . . . Mat[erials]", i.e., Senior-China's
10 separators. **Exhibit X**, attached hereto. In sales presentations, Senior-California (part of the San
11 Francisco Bay Area) is shown as  

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22 
23 145. Indeed, a consultant for Celgard called the Senior-California telephone number
24 listed on the website and shown in the "branch office" photo above (in paragraph 142) and was able
25 to purchase the accused separators.

26 146. Mr. Jian "Jack" Chen, who assisted in the sale of the accused separators to the
27 consultant for Celgard, is Senior-California's 
28 

1 [REDACTED]).

2 147. Mr. Chen, on behalf of Senior-California, has been part of [REDACTED]

3 [REDACTED]

4 148. Likewise, Senior-California has been involved in [REDACTED]

5 [REDACTED]

6 149. [REDACTED]

7 [REDACTED]

8 [REDACTED]

9 [REDACTED]

10 [REDACTED]

11 [REDACTED]

12 [REDACTED]

13 [REDACTED] **Exhibit EE**, attached hereto.

14 150. [REDACTED]

15 [REDACTED]

16 [REDACTED]

17 [REDACTED]

18 [REDACTED]

19 [REDACTED]

20 151. Further, as the U.S. extension of Senior-China, Senior-California has access to all

21 of the accused products and to information necessary for sales and trials of the accused products

22 and is funded by Senior-China. Part of this access arises from Senior-California's manager (Jian

23 "Jack" Chen), who [REDACTED]

24 [REDACTED]

25 [REDACTED]

26 [REDACTED]. *See e.g.*, **Exhibit FF**, attached

27 hereto.

28 152. Likewise, this access also arises from Dr. Zhang—the former Celgard employee

1 who absconded with Celgard's technology and proprietary information— and who is currently
 2 Chief Technology Officer of Senior-China. He has listed his address at the same physical location
 3 as Senior-California (from April 2019 until August 2019), and he likewise uses [REDACTED]

4 [REDACTED] **Exhibit**
 5 **GG**, attached hereto.

6 153. Senior-California has used its access to Senior-China's resources (for example its
 7 products and product information) to make offers for sales and for sales to customers and potential
 8 customers.

9 154. Senior-California has also used its access to Senior to induce sales of accused
 10 products and to induce the development of models of accused separators to sell.

11 155. Senior-California has also engaged in making, using, selling, offering to sell,
 12 distributing, importing, or exporting Senior-China's battery separators.

13 **H. Farasis' Breach of the Supply Agreement with Celgard**

14 156. At least Farasis Energy (Gan Zhou), Inc., Farasis Energy Inc., and Celgard
 15 previously had a long-standing business relationship together, with Celgard supplying its separators
 16 for Farasis' products.

17 157. For example, on or around April 26, 2017, Celgard had entered into a Memorandum
 18 of Understanding ("MOU") with Farasis Energy Inc. The MOU demonstrated Celgard's and
 19 Farasis Energy Inc.'s intent to form and operate a joint venture in China for the manufacture of
 20 ceramic coated separators (having Celgard base films) for use in Farasis' lithium-ion batteries. The
 21 MOU is signed by the Vice President of Research for Farasis Energy (Gan Zhou), Inc. A preceding
 22 2016 Letter Agreement explains the parties as "FARASIS ENERGY, INC. (for Farasis, and for
 23 Farasis USA)" as well as "FARASIS ENERGY (GANZHOU) INC. (for FARASIS China)." Celgard
 24 alleges that both Farasis Energy Inc. and Farasis Energy (Gan Zhou), Inc. are parties to the
 25 2017 MOU.

26 158. Further, since 2015, Farasis Energy (Gan Zhou), Inc. and Celgard have had a supply
 27 agreement. On or around May 4, 2018, Celgard and Farasis Energy (Gan Zhou), Inc. entered into
 28 the latest supply agreement ("2018 Supply Agreement"). The 2018 Supply Agreement is a valid

1 and binding agreement for Celgard to be the provider of separators to at least Farasis Energy (Gan
2 Zhou), Inc.

3 159. The 2018 Supply Agreement was effective through March 31, 2019, and included a
4 provision that during the contract term, Buyer (Farasis Energy (Gan Zhou), Inc.) agreed to purchase
5 certain Celgard separator products from Seller (Celgard) of a certain specified amount through
6 March 31, 2019.

7 160. In January 2019, during the term of the 2018 Supply Agreement, Farasis Energy
8 (Gan Zhou), Inc. told Celgard it was ceasing purchases from Celgard, it refused to pay for
9 specialized product already made for it, and announced it was going to purchase Senior-China's
10 separators instead.

11 161. On or around January 1, 2019, Farasis Energy (Gan Zhou), Inc. and Senior-China
12 entered into a supply agreement for Senior-China to supply infringing separators to Farasis Energy
13 (Gan Zhou), Inc. That contract was during the term of the 2018 Supply Agreement, pursuant to
14 which Farasis Energy (Gan Zhou), Inc. was to be purchasing certain Celgard separators at
15 contracted minimum quantities. The result of this new arrangement with Senior-China was a breach
16 of the 2018 Supply Agreement.

17 162. As a result of Senior-China and Farasis Energy (Gan Zhou), Inc.'s conduct in
18 replacing Celgard as the separator supplier, Celgard lost millions of m2 of business per year from
19 Farasis Energy (Gan Zhou), Inc. and lost a then-valuable supply relationship. Further, Farasis was
20 now using infringing separators in its products, such that Farasis was now infringing and continues
21 to infringe Celgard's patents, causing Celgard additional significant harm.

22 **FIRST CLAIM FOR RELIEF**

23 **Infringement of the '520 patent**

24 163. Celgard repeats and incorporates by reference all prior allegations of this Complaint
25 as if fully set forth herein.

26 164. Celgard is the owner by assignment of all rights, title, and interest in and to the '520
27 patent.

28 165. The '520 patent is valid and enforceable.

1 166. In violation of 35 U.S.C. § 271(a), each Senior-California and Sun Town has
2 infringed and continues to infringe at least Claim 12 of the '520 patent by making, using, offering
3 for sale, selling, and/or importing in or into the United States ceramic coated separators covered by
4 at least Claim 12 of the '520 patent, including, but not limited to, at least Senior's ceramic coated
5 separators identified above by model number.

6 167. Specifically, by example, and in violation of 35 U.S.C. § 271(a), Senior-California
7 and Sun Town has infringed and continues to infringe at least Claim 12 of the '520 patent by
8 making, using, offering for sale, selling, and/or importing in or into the United States ceramic
9 coated separators covered by at least Claim 12 of the '520 patent, including, but not limited to, at
10 least Senior's ceramic coated separators identified above by model number.

11 168. As a direct and proximate result of Sun Town's and Senior-California's
12 infringement of the '520 patent, Celgard has been injured and has been caused significant harm and
13 financial damages.

14 169. Senior-California and at least Sun Town have also induced and continue to induce
15 infringement of at least Claim 12 of the '520 patent in violation of 35 U.S.C. § 271(b).

16 170. Senior-California and Sun Town induce their customers, purchasers, users, and/or
17 developers of Senior's separators, such as Farasis, to infringe at least Claim 12 of the '520 patent
18 (or its predecessor, the '586 patent), and do so with specific intent, by providing instructions,
19 directions, information, and/or knowledge on how to use their separators, and/or incorporate their
20 separators into other products, such as lithium-ion batteries.

21 171. Senior-California and Sun Town have had knowledge of the '520 patent (or its
22 predecessor, the '586 patent) at least as early as February 25, 2019. Nevertheless, Senior-California
23 and Sun Town have continued to induce their customers, purchasers, users, and/or developers, such
24 as Farasis, to infringe. They do so through documentation accompanying Senior's separators,
25 technical support, advertisements, datasheets, demonstrations, and/or tutorials.

26 172. As a direct and proximate result of Senior-California's and Sun Town's induced
27 infringement of the '520 patent, Celgard has been injured and has been caused significant harm and
28 financial damages.

1 173. Each of Senior-California and Sun Town, without Celgard's permission, has been
2 and is presently infringing at least Claim 12 of the '520 patent in violation of 35 U.S.C. § 271(c),
3 by selling or offering to sell material or apparatuses for use in practicing the '520 patent (and its
4 predecessor, the '586 patent) that are a material part of the invention to their customers, purchasers,
5 users, and/or developers.

6 174. The components sold or offered for sale by Senior-California and Sun Town have
7 no substantial non-infringing uses. Further, they are not staple articles of commerce and constitute
8 a material part of the invention. Thus, Senior-California and Sun Town knew or should have known
9 that the products for which their components were made was protected by the '520 patent (and its
10 predecessor, the '586 patent), and yet Senior-California and Sun Town infringed upon the '520
11 patent in spite of this knowledge.

12 175. As such, each Senior-California and Sun Town has contributorily infringed and
13 continues to infringe the '520 patent, as set forth herein, knowing that the materials or components
14 would be made or adapted for use in an infringing manner.

15 176. For example, and without limitation, Farasis' lithium-ion batteries that contain the
16 Senior infringing separators are used in end-user products, including, those manufactured, used,
17 offered for sale, sold, imported into, or exported from the United States by Zero Motorcycles.

18 177. Farasis' lithium-ion batteries that contain the Senior infringing separators are not
19 staple articles or commodities of commerce suitable for non-infringing use and are especially made
20 for or adapted for use in infringing the Asserted Patents. Farasis' lithium-ion batteries that contain
21 the Senior infringing separators cannot be modified by the end user so as not to be infringing the
22 Asserted Patents. They are only designed to be used in an infringing manner. By contributing a
23 material part of the infringing products' manufacturing, selling, offering for sale, using, and/or
24 importing into, and/or exporting from the United States by their OEMs, importers, exporters,
25 customers, distributors, resellers and others, Senior-California and Sun Town have been and are
26 now directly and/or indirectly infringing the Asserted Patents under 35 U.S.C. § 271(c).

27 178. Senior-California's and Sun Town's infringing acts have been and are the actual and
28 proximate cause of damage to Celgard, and Celgard has sustained damages and harm and will

1 continue to sustain damages and harm as a result of Senior-California's and Sun-Town's
2 infringement of the '520 patent (and its predecessor, the '586 patent).

3 179. Senior-California and Sun Town continued infringement after having knowledge of
4 the patents is in spite of the objectively high likelihood that their activities constitute infringement
5 of a valid patent, and this risk was either known or so obvious that it should have been known to
6 Senior-California and Sun Town. Thus, Senior-California and Sun Town continued infringement
7 at least as of these dates is willful and deliberate.

8 180. Products that contain infringing Senior-China separators include at least Farasis-
9 China's and Farasis-US's lithium-ion batteries (such as FEI Part No. PCM102064-D01 and ZF7.2,
10 and Farasis pouch cells type IMP06160230P25A), which are offered for sale and sold to
11 manufacturers such as Zero Motorcycles.

12 181. Celgard has suffered and continues to suffer damages and irreparable harm as a
13 result of Senior-California's and Sun Town's past and ongoing infringement. Unless and until
14 Senior-California's and Sun Town's infringement is enjoined, Celgard will continue to be damaged
15 and irreparably harmed.

16 182. Celgard is entitled to all remedies at law and equity, including, but not limited to, an
17 injunction against Senior-California's and Sun Town's infringement of the '520 patent pursuant to
18 35 U.S.C. § 283.

19 183. Celgard is entitled to damages for Senior-California's and Sun Town's infringement
20 of the '520 patent, including, but not limited to, damages pursuant to 35 U.S.C. §§ 284, 285.

21 **SECOND CLAIM FOR RELIEF**

22 **Infringement of the '867 patent**

23 184. Celgard repeats and incorporates by reference all prior allegations of this Complaint
24 as if fully set forth herein.

25 185. Celgard is the owner by assignment of all rights, title, and interest in and to the '867
26 patent.

27 186. The '867 patent is valid and enforceable.

28 187. In violation of 35 U.S.C. § 271(a), each Defendant has infringed and continues to

1 infringe at least Claims 17 and 18 of the '867 patent by making, using, offering for sale, selling,
2 and/or importing in or into the United States separators covered by at least Claims 17 and 18 of the
3 '867 patent, including, but not limited to, at least Senior-China's separators identified above by
4 model number.

5 188. Specifically, for example, and in violation of 35 U.S.C. § 271(a), Senior-California
6 and Sun Town has infringed and continues to infringe at least Claims 17 and 18 of the '867 patent
7 by making, using, offering for sale, selling, and/or importing in or into the United States separators
8 covered by at least Claims 17 and 18 of the '867 patent, including, but not limited to, at least Senior-
9 China's separators identified above by model number.

10 189. Specifically, for example, and in violation of 35 U.S.C. § 271(a), each Farasis-US
11 and Farasis-China Defendant has infringed and continues to infringe at Claims 17 and 18 of the
12 '867 patent by making, using, offering for sale, selling, and/or importing in or into the United States
13 its lithium-ion batteries, such as FEI Part No. PCM102064-D01 and ZF7.2, that include Senior's
14 infringing separators identified above by model number, such as SH320D14 or similar separator.

15 190. As a direct and proximate result of each of Defendant's infringement of the '867
16 Patent, Celgard has been injured and has been caused significant harm and financial damages.

17 191. Senior-California and Sun Town have also induced and continue to induce
18 infringement of at least Claims 17 and 18 of the '867 patent in violation of 35 U.S.C. § 271(b).

19 192. Senior-California and Sun Town induce their customers, purchasers, users, and/or
20 developers of their separators to infringe at least Claims 17 and 18 of the '867 patent, and do so
21 with specific intent, by providing instructions, directions, information, and/or knowledge on how
22 to use their separators, and/or incorporate their separators into other products, such as lithium-ion
23 batteries.

24 193. Senior-California and Sun Town have had knowledge of the '867 patent at least as
25 early as September 16, 2019. Farasis Energy Inc. has had actual knowledge of the '867 patent at
26 least as early as November 12, 2019. The other Defendants have had actual knowledge of the '867
27 patent as least as early as December 12, 2019, the date of the First Amended Complaint.
28 Nevertheless, Senior-California and Sun Town have continued to induce their customers,

1 purchasers, users, and/or developers to infringe. They do so through documentation accompanying
2 their separators, their technical support, advertisements, datasheets, demonstrations, and/or
3 tutorials.

4 194. As a direct and proximate result of Senior-California's and Sun Town's induced
5 infringement of the '867 Patent, Celgard has been injured and has been caused significant harm and
6 financial damages.

7 195. Each Defendant, without Celgard's permission, has been and is presently infringing
8 at least Claims 17 and 18 of the '867 patent in violation of 35 U.S.C. § 271(c), by selling or offering
9 to sell material or apparatuses for use in practicing the '867 patent that is a material part of the
10 invention to their customers, purchasers, users, and/or developers.

11 196. The components sold or offered for sale by each Defendant has no substantial non-
12 infringing uses. Further, they are not staple articles of commerce and constitute a material part of
13 the invention. Thus, each Defendant knew or should have known that the combination for which
14 their components were made was protected by the '867 patent and yet Defendants infringed upon
15 the '867 patent in spite of this knowledge.

16 197. As such, Defendants have contributorily infringed and continue to infringe the '867
17 patent, as set forth herein, knowing that the materials or components would be made or adapted for
18 use in an infringing manner.

19 198. For example, and without limitation, Farasis' lithium-ion batteries that include
20 Senior infringing separators are used in end-user products, including, those manufactured, used,
21 offered for sale, sold, imported into, or exported from the United States by Zero Motorcycles.

22 199. Farasis' lithium-ion batteries that include Senior infringing separators are not staple
23 articles or commodities of commerce suitable for non-infringing use and are especially made for or
24 adapted for use in infringing the Asserted Patents. Farasis' lithium-ion batteries that include Senior
25 infringing separators cannot be modified by the end user so as not to be infringing the Asserted
26 Patents. They are only designed to be used in an infringing manner. By contributing a material part
27 of the infringing products' manufacturing, selling, offering for sale, using, and/or importing into,
28 and/or exporting from the United States by their OEMs, importers, exporters, customers,

distributors, resellers and others, Defendants have been and are now directly and/or indirectly infringing the Asserted Patents under 35 U.S.C. § 271(c).

200. Defendants continued infringement on or after knowledge of the '867 patent is in spite of the objectively high likelihood that their activities constitute infringement of a valid patent, and this risk was either known or so obvious that it should have been known to Defendants. Thus, Defendants' continued infringement at least as of the filing of the Complaint is willful and deliberate.

201. Products that contain infringing Senior-China separators include at least Farasis-China's and Farasis-US's lithium-ion batteries (such as FEI Part No. PCM102064-D01 and ZF7.2, and Farasis pouch cells type IMP06160230P25A), which are offered for sale and sold to manufacturers such as Zero Motorcycles.

202. Celgard has suffered and continues to suffer damages and irreparable harm as a result of Defendants' past and ongoing infringement. Unless and until Defendants' infringement is enjoined, Celgard will continue to be damaged and irreparably harmed.

203. Celgard is entitled to all remedies at law and equity, including, but not limited to, an injunction against Defendants' infringement of the '867 patent pursuant to 35 U.S.C. § 283.

204. Celgard is entitled to damages for Defendants' infringement of the '867 patent, including, but not limited to, damages pursuant to 35 U.S.C. §§ 284, 285.

THIRD CLAIM FOR RELIEF

Breach of Contract

205. Celgard repeats and incorporates by reference all prior allegations of this Complaint as if fully set forth herein.

206. The 2018 Supply Agreement between Celgard and Farasis Energy (Gan Zhou), Inc. is a valid and enforceable contract.

207. The parties knowingly and willingly entered into the 2018 Supply Agreement.

208. Celgard has performed all of its material obligations under the 2018 Supply Agreement.

209. The 2018 Supply Agreement was effective through March 31, 2019, and included a

1 provision that during the contract term, Buyer (Farasis Energy (Gan Zhou), Inc.) agreed to purchase
2 certain Celgard separator products from Seller (Celgard) of a certain specified amount through
3 March 31, 2019.

4 210. In January 2019, during the term of the 2018 Supply Agreement, Farasis Energy
5 (Gan Zhou), Inc. told Celgard it was ceasing purchases from Celgard, it refused to pay for
6 specialized product already made for it, and announced it was going to purchase Senior-China's
7 separators instead.

8 211. At least in or about January 2019, therefore Farasis Energy (Gan Zhou), Inc.
9 unilaterally terminated the 2018 Supply Agreement without prior written notice, and without
10 paying for all goods and services it received thereunder, and all amounts due and owing thereunder.

11 212. On or around January 1, 2019, Farasis Energy (Gan Zhou), Inc. and Senior-China
12 entered into an arrangement for Senior-China to supply infringing separators to Farasis. That
13 contract was during the term of the 2018 Supply Agreement, pursuant to which at least Farasis
14 Energy (Gan Zhou), Inc. was to be purchasing certain Celgard separators at contracted minimum
15 quantities. The result of this new arrangement with Senior-China was a breach of the 2018 Supply
16 Agreement.

17 213. As a result of Farasis Energy (Gan Zhou), Inc.'s breach, Celgard lost millions of m2
18 of business per year.

19 214. Accordingly, as a direct and proximate cause of Farasis Energy (Gan Zhou), Inc.'s
20 contractual breaches, Celgard has suffered and continues to suffer immediate and irreparable injury,
21 loss, harm, and/or damage, and will continue to suffer said injury, loss, harm, and/or damage.

22 215. Celgard is entitled to recover such damages in an amount to be proven at trial. As a
23 direct and proximate result of Farasis Energy (Gan Zhou), Inc.'s contractual breaches, Celgard has
24 suffered additional damages.

25 JURY DEMAND

26 Pursuant to Civ. L.R. 3-6 and Fed. R. Civ. P. 38, Celgard hereby requests a trial by jury.

27 REQUEST FOR RELIEF

28 Celgard respectfully asks that the Court enter judgment in its favor as follows:

- 1 A. Judgment in favor of Celgard and against Defendants on each cause of action
- 2 alleged herein;
- 3 B. Finding that Defendants have infringed and are presently infringing the '867
- 4 patent;
- 5 C. Finding that Senior-California and Sun Town have infringed the '520 patent;
- 6 D. Finding that Defendants' infringement of the '867 patent has been and continues to
- 7 be willful;
- 8 E. Finding that Senior-California's and Sun Town's infringement of the '520 patent
- 9 has been willful;
- 10 F. Awarding Celgard damages adequate to compensate it for Defendants' past and
- 11 present infringement, but in no event less than a reasonable royalty;
- 12 G. Awarding an accounting and supplemental damages for those acts of infringement
- 13 committed by Defendants subsequent to the discovery cut-off date in this action
- 14 through the date Final Judgment is entered;
- 15 H. Ordering that damages for infringement of the Asserted Patent(s) be trebled as
- 16 provided for by 35 U.S.C. § 284 for Defendants' willful infringement of the
- 17 Asserted Patents;
- 18 I. Finding that Farasis Energy (Gan Zhou), Inc breached the 2018 Supply
- 19 Agreement;
- 20 J. That Celgard be awarded its full actual and consequential damages according to
- 21 proof at trial;
- 22 K. That Celgard be awarded Defendants' restitution to the fullest extent available
- 23 under applicable law;
- 24 L. Finding that this case is exceptional;
- 25 M. Awarding Celgard its attorneys' fees and costs, together with prejudgment and
- 26 post-judgment interest;
- 27 N. An award of exemplary and enhanced damages against Defendants, as well as
- 28 attorneys' fees and costs incurred in this action;

- 1 O. An award of punitive and exemplary damages against Defendants;
- 2 P. A preliminary and permanent injunction against Defendants, and their employees
- 3 or representatives, and all persons acting in concert or participating with them,
- 4 pursuant to 35 U.S.C. § 283;
- 5 Q. To the extent injunctive relief is not awarded, awarding Celgard damages adequate
- 6 to compensate Celgard for Defendants’ future infringement, but in no event less
- 7 than a reasonable royalty; and
- 8 R. Any further relief that this Court deems just and proper.
- 9

10 DATED: March 1, 2021

Respectfully submitted,

11 By: /s/ Bryan J. Vogel
12 Bryan J. Vogel (*pro hac vice*)

13 **ATTORNEYS FOR PLAINTIFF**
14 **CELGARD, LLC**